

File 977023

11 August 1967
552-552A-OD-337PROGRESS REPORT - 552 and 552A
For July 1967552-101

Work performed on this system during this reporting period was to repair the compressor-vacuum pump. Investigation of unusual compressor noise found cracked inner races of (2) connecting rods ball bearings. A local supplier in Washington D. C. rebuilt the compressor and by borrowing vacuum pump parts from 552A #101, the 552 system was operational on July 24, 1967.

The above effort completes work on this system as lens centering effort in June proved satisfactory by confirming optical axis shift of the 3 higher magnification objectives to within 20 micron diameter point mark.

Work on Laser Point Marking in May significantly improved marking quality and reliability by modifying laser power supply and trigger electronics, increasing capacity of line regulation, replacing one crystal and adding an optical adjustment to aid alignment of laser output. The result of this work was to make system's point marking capability acceptable by customer.

Therefore, with the refinements on point marking, lens centering and compressor breakdown, system was accepted by customer.

The manual reproducible drawings and spare parts list (in manual) will be delivered in August to complete deliverable items of this contract.

Declass Review by NIMA/DOD

552A #104

Several trips were made during July to complete installations of this system. Work consisted of revising circuits in motorized film drive in the following areas:

1. Powered loop withdrawal brake release to prevent restraint of idling film drive on supply spool side, by spool brakes.
2. Prevention of excess film tension at completion of loop withdrawal. With high speed drive operation to reduce loop length, film could be stalled against a locked spool causing light film tension and a drive overload. The drive is stopped before zero loop is obtained and loop mechanism has to be put in "return" mode to complete loop withdrawal.
3. Prevention of film drive stall on fixed side in loop forming mode. By eliminating possible drive operation of brake, spool in loop forming operation film drive cannot be overloaded.
4. Power assist mode drive reversal permits system to handle all film windings on spools customer uses. Operation in reverse direction requires proper setting of mechanical controls at spool spindles.

During film drive trials, film scratching by center hold-down was noticeable. We are refinishing the spring fringes on the holddown bars and completed holddown rework should be installed in August. At that time, air pressure below film will be reduced to further reducing scratching.

ENCLOSURE

Financial report for the month of July is attached.

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Next 1 Page(s) In Document Exempt

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18 July 1967
552-552A-OD-334

PROGRESS REPORT - 552 and 552A

For June 1967

552 #101

An intensive effort was made in June to correct the problem of objective lens eccentricity and stability for the 2 highest magnification ranges. New adjustable mounts were made for each lens and carefully centered so that run out between the 3 higher magnification ranges was less than 20 microns, or within the point mark diameter.

552A #102

About 2 days effort was consumed in preliminary investigation of this system's scanning drive problems. The damaged circuit board in stepping motor electronics found earlier, was sent to factory for repairs. Work progress is being impaired because of customer's schedule in this system's instrument room. At the rate time is being made available, not only a serious delay in completing work will be seen, but the number of trips and other travel costs required will exceed estimate. It is suggested that one of two schemes be instituted to augment the repair work:

1) Screen off area around instrument permitting service personnel to work on a regular schedule while not compromising security needs.

2) Arrange evening service work time on a appointment basis if scheme (1) is objectionable (This would involve additional cost).

552A #103

Service personnel will check over optics of this system at time of installation of [] Model 571-AM-2 system at STAT NRTSC.

18 July 1967

552-552A-OD-334

552A #104

Installation of system is complete except for correcting problems in film drive modification. Solution for the following improvements are required to complete work on system:

- 1) Prevention of brake restraint during powered loop withdrawal.
- 2) Prevention of accidental excess film tension at completion of loop withdrawal in powered modes.
- 3) Film drive reversal in power assist mode so that all spooled films can be used on system.

Circuit arrangements are being prepared for the above problems with installation due in July.

ENCLOSURE:

Financial Report for the month of June is enclosed.

Prepared by:

WWB:maj

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File 997823

552 Final Report

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15 August 1967
552-OD-338

FINAL REPORT
for
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

Dated: 15 August

Document No. 552-OD-338

STAT

Prepared By:

Manager - Stereo Comparator Systems Division

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Program Manager

This Final Report provides a summary of the status of deliverable items on subject Contract. All items have been delivered as outlined below.

The 552 System has been delivered, aligned and tested on site. All discrepancies and objections pointed out by the C.O.T.R. and operating personnel have been corrected. Final acceptance of the 552 has been approved by the C.O.T.R. after retesting the modified system per summarized test items below.

SUMMARY

Summary of deliverable contract items:

1. Versatile high precision stereoscopic point transfer device delivered and Final tests completed July, 1967.
2. Progress Reports - delivered
3. Final Report - delivered (this document)
4. Operation and Maintenance Manual (6) delivered with this document.
5. Drawing, reproducible working drawings used to construct system with mechanical layouts, assembly drawings, electrical schematics wiring and block diagrams (1 set) - delivered with this document.
6. Spare Parts List (2 each) - previously delivered; also each Instruction Manual (Item 4) contains a spare parts recommendation list also delivered with this document.

OPERATION INSTRUCTION AND MAINTENANCE MANUAL is submitted together with this Final Report.

The Manual includes a very complete coverage and description of the system functions and operation with text, data charts, schematics, block diagrams, spare parts list, and photographs to support easy instruction for operation and troubleshooting/maintenance.

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